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ABSTRACT

This paper details the ongoing study of the characteristics of incoming students at Pennsylvania College of Technology, (Penn College) which resulted from a merger in 1989 of Williamsport Area Community College and Penn State, leading to new programs and activities, e.g., bachelor degrees, on-campus housing, and athletics. The college periodically assesses its entering students by participating in the Cooperative Institutional Research Program (CIRP), sponsored by the American Council on Education and the Higher Education Research Institute; CIRP involves some quarter million students every year. The primary purpose of CIRP is to assess the effects of college on students; to do so, its entering student survey, which targets only first-time, full-time students, profiles them on a wide array of characteristics, enabling internal and external comparisons. The conclusions of study at Penn College so far indicate that although the entering population is evolving slowly, it continues to differ from national norms in more ways than it mirrors the traditional population. If in a decade of institutional upheaval, the pool of Penn College students is still more like those who came 10 years ago, the question for researchers is how often effort for studies like CIRP should be undertaken. (Contains 10 references.) (RH)

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WHAT'S IN A NAME CHANGE?
USING CIRP DATA AT A TRANSITIONAL TWO-YEAR COLLEGE

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WHAT'S IN A NAME CHANGE?
USING CIRP DATA AT A TRANSITIONAL TWO-YEAR COLLEGE

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In 1989, Williamsport Area Community College merged with Penn State and became Pennsylvania College of Technology. Beside the change in name and institutional control, opportunities arose for new programs and services (e.g. bachelor degrees, on-campus housing, athletics). However, the College mission remained essentially the same. With the Penn State connection, has Penn College begun to attract different types of students, and if so, in what ways do they differ?

Objectives

Penn College periodically assesses its entering students, for five basic purposes:

1) describe what they look like;
2) analyze how they differ from national norms;
3) analyze how they differ from those entering in the past;
4) analyze how student sub-groups differ, and
5) establish a basis for measuring student change and development.

The College is currently conducting a longitudinal study to address the latter objective. This paper focuses on part three, but will incorporate pieces of one and two to provide additional insight. To study entering students, Penn College participates in the Cooperative Institutional Research Program (CIRP) entering student survey.

Literature Review

The CIRP Entering Student Survey, sponsored by the American Council on Education and the Higher Education Research Institute at UCLA, is part of the largest continuing study of American higher education. CIRP involves some quarter million students every year (Astin, 1993). Obviously, Penn College is not the only college interested in studying entering students. College-going populations are constantly changing: more adults are entering, more minorities and more part-timers (Levine, 1989). Students are becoming more disengaged, academically and politically (Sax, Astin, Korn & Mahoney, 1997). Peer groups are among the most potent developmental influences on students (Astin, 1993; Pascarella & Terenzini, 1991). Thus, faculty and staff need to understand these new students not just individually, but as a whole.

The primary purpose of CIRP is to assess the effects of college on students (Astin, Panos & Creager, 1966). In order to do so, colleges must first profile students at the time they enter college. The entering student survey provides this initial profile, on a wide array of characteristics. For participating colleges, CIRP also provides opportunities to make useful

internal and external comparisons. Penn College has participated twelve times, including five times since the 1989 merger.

The 1997 national norms highlight several trends regarding the changing family structure of college students, and their growing academic and political disengagement (Sax et al., 1997). Students are coming from smaller families: those with less than four dependents reached a high of 51%, compared to a low of 33% in 1978. Perhaps related, a record high 26% of all freshmen came from single-parent homes, nearly triple that reported in 1972. With the corresponding growth in single parents, fewer mothers (11%) than ever are full-time homemakers, compared to 34% in 1976. While all three of these trends are also evident among the general American population, the rate of change among the families of students is even greater (U. S. Census Bureau, 1997).

The 1997 entering class also show "higher levels of disengagement-both academically and politically-than any previous entering class" (Sax et al., 1997, p. 2). Record high proportions were: bored in class (36%, compared to low of 26% in 1985); over-slept and missed class or an appointment (35%, nearly double the low in 1968), and studied less than six hours a week (66%, compared to low of 56% in 1987). Despite this decline in study time, students express loftier educational goals and expectations. Over half aspire to a graduate degree and expect at least a B average (compared to lows of 33% in 1972). Nearly 20% expect to graduate with honors (compared to low of 4% in 1968).

Student political disengagement is evident in even more ways. Record lows are keeping up to date with politics, discuss politics, hope to influence politics, or vote in student elections. Similarly, student interest in environmental, multicultural, community and social activism has declined to ten-year lows, after peaking in 1992. Do Penn College students reflect the same trends? Are they moving closer to national norms?

Methodology

Population/Sample: The CIRP entering student survey targets first-time, full-time students. *First-time* students are those enrolling in higher education for the first time ever. Penn College, like most colleges, defines *full-time* as 12 or more credit hours per semester. The entering College population in the 1990s has ranged from 1200 to 1500 students. Since the merger, freshmen studies were conducted in 1989, 1990, 1992, 1995 and 1997. The first three years, students were surveyed in-class, producing samples of over 60% (1989 – 1036, 1990 – 1042, 1992 - 895). The last two years, they were surveyed during orientation, producing samples under 30% (1995 – 468, 1997 - 360).

Response rates were analyzed by academic school, sex, age, race, and father's and mother's education. Younger students have been routinely over-represented. In 1997, adults responded at a significantly lower rate (11%) than did traditional-aged students (31%). Thus, results summarized here should be considered representative only of the traditional-aged student body. This is an acknowledged limitation of the study.

It is also important to recognize that these results apply only to full-time students. While the College part-time enrollment has been slowly declining, they still represent between 20% to 25% of all Penn College students. Part-time students differ from full-timers in many substantial ways.

Data Sources: The CIRP Student Information Form (SIF) has been developed by CIRP project staff, together with students, participating institutions, government agencies, professional associations, educational researchers, administrators, and members of the CIRP Advisory Committee. It is designed for self-administration under proctored conditions. For a copy of the instrument and more details, refer to Sax et al. (1997).

CIRP produces national norms for a number of institutional classifications. As a two-year college that now also offers B.S. programs, Penn College is interested in public two-year and four-year comparative norms. ***Public 4-year colleges*** consist of publicly controlled (local, state or federal) institutions that primarily offer baccalaureate programs, but not doctorates. ***Public 2-year colleges*** consist of publicly controlled institutions that primarily offer sub-baccalaureate programs.

Data Collection: In 1989, 1990 and 1992, College faculty administered CIRP during the first week of classes in sections selected by the Institutional Research office, in coordination with academic school offices. This gave high response rates, but over-sampled students in the more rigidly structured technical majors and under-sampled those in the more flexible non-technical majors. It also took an hour of class instruction time.

In 1995, Student Services administered CIRP, in coordination with IR staff, in several classroom orientation sessions. Due to low response rates, in 1997 IR staff administered CIRP directly for the first time, in a single large orientation session. Unfortunately, the result was an even lower response rate. In both years, an additional small number of students were surveyed in classrooms at the College's North Campus in Wellsboro. The reduced sample sizes in 1995 and 1997 constitute further limitations of the study.

Data Analysis: The final phase of this study will involve multivariate longitudinal analyses of student development based on CIRP data. This phase however, focuses on more simplistic comparative analyses. Thus, bivariate methods were deemed sufficient. CIRP provides a voluminous number of variables, most of which are either ordinal or categorical. To simplify the analyses, chi-square tests were the primary method used. This conservative approach fails to take full advantage of the ordinal format of some variables. However, there was no shortage of significant findings even without making optimal use of the type of variables available. Significant chi-square findings were followed up with residual analyses as needed.

This paper primarily focuses on comparing Penn College entering students over time. Chi-square tests of homogeneity (Daniel, 1978) were conducted to test the null hypotheses ($p_{1997} = p_{1989}$) against the alternative hypothesis that the 1997 population differs from 1989 (or 1990, 1992, 1995). Chi-square goodness-of-fit tests were used to test the hypotheses that the 1997 College sample differs from the national 2-year and 4-year norms. However, these results are used only where they provide further insight toward this paper's main objective. All statistical tests used 5% significance levels.

Results

National norm comparisons: To lay a foundation for discussing changes in Penn College entering classes, it will be useful to briefly summarize (see Table 1) how they differ from national norms. Due to space limitations, test statistics are not included here.

Compared to four-year college norms, Penn College attracts significantly more adults, lower-income students, and lower-achieving students (i.e. high school grades). Perhaps related to their disadvantaged backgrounds, they have lower self-esteem and interest in most aspects of the educational experience. They are more likely to indulge in cigarettes and beer. For many, Penn College is the only institution they even considered attending.

Compared to both two-year and four-year norms, Penn College attracts significantly fewer female and minority students. Furthermore, they are much less likely to have even socialized with members of other ethnic groups. Their parents more likely work in blue-collar occupations, and come from an extended geographic base that is particularly uncommon for two-year colleges. Their college finances depend much more heavily on government aid and loans. They are more firm in their career goals and expectations, and are primarily focused on education as a means to a high-paying job. Community and cultural goals and values are of relatively little interest to them. They are also less politically involved and more conservative than most students are (Cunningham, 1999). Many of these traits have carried over from the institution's community college days. But has there been any shift in student characteristics since the merger?

Demographics: Before looking at more CIRP data, it is better to examine some of the demographic items routinely collected for administrative purposes (age, sex, race, income, major, etc.). Penn College summarizes five years of enrollment data in the annual *Sourcebook* (1998) report. The most substantial demographic shift has been in student age (see Table 2). More traditional-aged (under 21) students are entering (80%), particularly since 1992 (74%). In contrast, the adult (over 20) segment has dropped from 26% in 1992 to 21%. Related to age, the male majority has grown from 56% in 1992 to 60% (the College's traditional aged students have always been predominantly male).

The age bias in the CIRP sample, combined with the substantial age shift in the underlying population can complicate analyses of the results. To clarify the age complications, the proportion of younger students taking the CIRP was much higher in

1997 than in the past. In part this was due to a *true* increase in the proportion of traditional incoming students, but in part it was due to response bias (younger students were more likely to respond).

Table 1
1997 Entering Students
Penn College vs. National Norms

Variable	Penn Clg	Public 2-yr	Public 4-yr
Female	.40	.52	.56
Age 21+	.20	.09	.01
Minority (non-white)	.04	.17	.24
Socialize w/person of other ethnicity (frequently)	.39	.54	.64
Father: skilled-unskilled labor	.34	.22	.17
Family income <$50k	.55	.59	.48
H.S. GPA B or lower	.86	.87	.68
Academic ability >average (self-assessed)	.30	.33	.58
Intellectual self-confidence	.41	.41	.55
Smoke cigarettes (frequently)	.28	.25	.13
Drink beer (occasionally)	.58	.57	.49
Politics–Far right	.031	.015	.015
Politics–Liberal	.12	.19	.21
Applied to other colleges	.48	.44	.72
Attending 1st choice college	.80	.68	.67
College aid-family ($1500+)	.59	.30	.50
College aid-summer work	.54	.35	.49
College aid-on-campus job	.09	.09	.20
College aid-off-campus job (pt)	.22	.34	.24
College aid-college scholarship	.10	.13	.25
Expect to change career choice	.02	.10	.12
Goal-successful business owner	.51	.45	.40

NOTE: Statistically significant differences are enclosed in rectangles.

In terms of academic major, B.S. programs have produced nearly all the enrollment growth (95 to 165) in the past two years, up 75%. One- and two-year programs have slightly declined. This change also relates to student age (younger students are nearly twice as likely to select B. S. majors).

While Penn College students continue to come from families of lower educational and occupational status, their backgrounds are increasingly stable. First, in contrast to national trends, more Penn College students' parents are living together. Fewer (21%, down from 26% in 1992) are from broken homes, now below national norms (also 26%).

Perhaps related, the income gap between Penn College students and national norms is closing. The proportion from families earning over $50,000 has jumped from 27% in 1992 to 46%. In contrast, the lower-income segment (under $30,000) has dropped from 45% to 25%, nearly matching national norms. The down side to this improved financial stability is that it probably also reflects the reduced access lower income students have to the College, because of skyrocketing tuition rates.

Probably also related to income, Penn College students are coming from an increasingly disperse geographic area (lower income students tend to stay close to home). Over half of the entering students came from over 100 miles away, compared to 28% in 1990, and now significantly greater than national norms (39%).

Table 2
Penn College Entering Students - Demographics
1992 vs. 1997

Variable	National Norm	PC 1992	PC 1997	Chi-Square	p-value
Age <20	.94	.74	.80	NA	NA
Age 20+	.06	.26	.20	NA	NA
Female	.54	.44	.40	NA	NA
Parents live together	.70	.67	.76	32.5	<.01
Family income $50k +	.53	.27	.45	155.1	.03
Family income $10k - $30k	.18	.34	.17	155.1	<.01
College 100+ miles from home	.39	.32	.54	116.2	<.01

Academic preparation: The College is attracting a somewhat better prepared student body. The proportion with average high school grades of B+ or better has nearly doubled since 1989, from 18% to 34%. In addition, entering student self-perceptions of intellectual self-confidence (41% - 31%) are significantly higher than prior classes.

Activities: Since 1989, more entering students have performed volunteer work (69% - 48%). In contrast, they are spending less time drinking (beer, 73% - 58%; wine/ liquor, 60% - 52%) and partying (75% - 83%).

Table 3
Penn College Entering Students – Academics & Activities
1989 vs. 1997

Variable	National Norm	PC 1989	PC 1997	Chi-Square	p-value
H.S. grades B+ or higher	.51	.17	.33	88.4	<.01
Intellectual self-confidence >average	.54	.31	.41	3.9	.05
Performed volunteer work	.73	.48	.69	7.4	.01
Drank beer	.53	.75	.58	7.0	.01
Drank wine/liquor	.56	.62	.52	4.6	.04
Partying-at least some time every week	.82	.83	.75	4.7	.04

Socio-political views: While most Penn College students politically align themselves with neither the left nor right, those who do are increasingly conservative. Since President Clinton was first elected in 1992, entering students have become significantly less likely to support liberal views, such as:

- the federal government is not adequately controlling environmental pollution (75%, down from 86%, norm 82%);
- abortion should remain legal (46%, down from 63%, norm 54%), and
- a national health care plan is needed (67%, down from 79%, norm 73%).

Table 4
Penn College Entering Students – Socio-Political Views
1992 vs. 1997

Variable	National Norm	PC 1992	PC 1997	Chi-Square	p-value
Orientation – Conservative/far right	.21	.19	.22	19.2	.02
Orientation – Liberal	.22	.17	.12	19.2	.02
Fed gov't not controlling environment/ pollution	.81	.86	.75	4.2	.04
Abortion should be legal	.54	.63	.46	4.5	.04
National health care plan needed	.72	.79	.67	4.2	.01

College selection/finances: Penn College students apply (and are accepted) at fewer colleges than their peers, but this is changing. Since 1992 more College students have applied elsewhere (48% - 38%). They also have been more heavily dependent on college loans, but are now receiving greater family support (76% receive some support, up from 69%; 59% receive over $1500, up from 39% in 1992).

Table 5
Penn College Entering Students – College Selection & Finances
1992 vs. 1997

Variable	National Norm	PC 1992	PC 1997	Chi-Square	p-value
Applied to other colleges	.66	.38	.48	39.8	.02
College aid-family ($1500+)	.52	.40	.60	7.0	.01

Education/career expectations: Compared to 1989 more Penn College students expect to receive a bachelor's degree (35% - 21%). This is a natural result of increasing B. S. degree programs at the College. Probably related, fewer students expect to transfer to another college (9% - 5%).

Since Penn College began offering B.S. degrees, enrollment patterns have become more complex. Some students enter associate degree majors, but also intend to complete the B. S. at the College (or start in certificate programs, but intend to complete the associate). Others have no aspirations beyond the program they first enter. Some 5% even enter degree programs with no intent of actually graduating. Most (45%) still simply enter two-year programs with no plans for the B. S., but this group is in decline.

Enrollment growth has come primarily in B. S. majors. CIRP data shows an equally rapid growth in those who intend to receive a B. S. at the College, but first enter at the associate degree level (up from 16% to 26%). Thus, one in every four College freshmen might appear on the surface to be only two-year students, but they actually intend to stay for the four (or more) years it takes to complete their baccalaureate. This finding has obvious implications for both advising and future enrollment growth.

Conclusions

Since merging with Penn State, the Penn College entering population has slowly evolved. However, it still significantly differs from national norms in more ways than it mirrors the traditional population. Penn College students continue to bring a complex mix of two-year and four-year college student traits.

To summarize, in contrast to national trends, Penn College students are coming from more stable family backgrounds, and an increasingly disperse geographic area. They are entering with increasingly more conservative social and political views than their peers. They are reporting less partying and alcohol consumption. While their academic involvement remains low compared to their peers, they perceive the College's academic reputation to be slowly improving, in conjunction with improving levels of academic preparation, self-confidence and degree aspirations.

Implications Penn College underwent a major transformation 10 years ago and enrollments continue to slowly evolve. The PSU connection has been beneficial, and may have helped increase the *quantity* of our enrollment. In addition, focusing only on internal enrollment trends, it may appear that student characteristics are substantially changing. However, in comparison to national norms, the change in entering student *qualities* has been relatively moderate.

Compared to prior entering classes, Penn College students are becoming more like traditional students – younger, from more stable families, with middle and upper class incomes, and improving academic backgrounds. However, compared to their peers, Penn College students continue to display far more non-traditional characteristics (e.g., age, family, education, career and financially oriented interests and goals). As Astin has recognized, there is considerable consistency in the kinds of student bodies enrolling at particular institutions, even over long periods of time (1985). It could be added that this consistency is likely to persist even through a period of substantial institutional transition.

For institutional researchers, this study also raises questions about how often we need to replicate some of our research efforts. In a decade of institutional upheaval, the pool of Penn College students is still more like those who came ten years ago, than they are to their peers. It may not be necessary to conduct studies like CIRP and analyze the results every year (or even five times over nine years). Given the ever-expanding demands for research information, could we better use our resources elsewhere?

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